

About this document: This is an installment of the Massachusetts Oral Health Series (MOHS), developed by the Massachusetts Department of Public Health (DPH). The series focuses on important issues in oral health in the state through topic-specific installments. This issue outlines programs and statistics in Massachusetts. Please visit www.mass.gov/orgs/office-of-oral-health for more information.

FOCUS ON ORAL HEALTH

In recent years, oral health, particularly for pregnant women and infants, has become both a national priority and state priority due to the evidence of growing disparities in oral health-related outcomes and access to care in communities. This document will outline the importance of oral health during pregnancy and early childhood, data trends, and next steps for Massachusetts. Below are the programs and policies that have made oral health a priority:

United States

Oral Health is a [Healthy People 2030](#)¹ leading health indicator topic.

Massachusetts

[Title V](#)² program previously selected Oral Health as a state priority in 2010.

In 2016, the [Massachusetts Oral Health Guidelines for Pregnancy and Early Childhood](#) were released in Massachusetts for the first time.³

THE FACTS

Pregnant Women³

1. Hormonal changes often cause **“pregnancy gingivitis”**. This is the most common oral condition during pregnancy, characterized by swollen and bleeding gums.
2. Pregnant women have an increased risk for developing **dental caries and tooth erosion during pregnancy** related to:
 - Gastric acid from morning sickness
 - Esophageal sphincter and gastric pressure
 - Inadequate fluoride
 - High intake of sugary food or beverages
 - Lack of access to oral health care
3. **Non-cancerous lesions in the mouth** are common during early pregnancy.

Early Childhood⁴

1. Among children in the US, **dental caries** is the most common chronic condition.
 - Significant disparities exist, with Black and Hispanic children and those with lower incomes having more decay.⁵
2. Poor dental health as an infant is often associated with **dental issues both immediately and later in life** including:
 - Pain and infections
 - Poor eating and growth
 - Poor self-esteem
 - Financial costs for families
 - Missed school days for children and missed workdays for parents

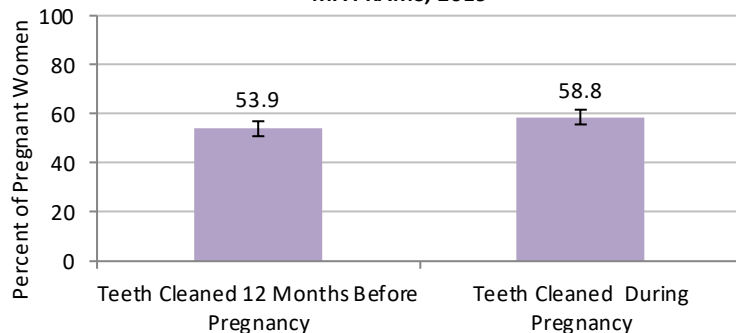
Parents who have dental caries can **transmit** bacteria to their **infants** by sharing utensils or by cleaning pacifiers with their mouth after an infant has dropped it.

THE DATA Trends in MA

The primary source of data available for pregnant women in Massachusetts is the Pregnancy Risk Assessment and Monitoring System (PRAMS).⁶ There is no data currently available for infant oral health in Massachusetts.

Overall Trends

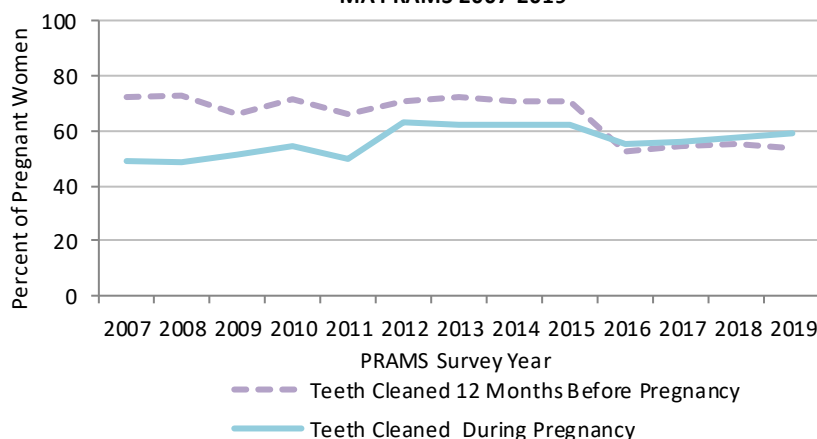
**Percent of Women Who Had Their Teeth Cleaned
MA PRAMS, 2019**



Overall, over half of pregnant women had their teeth cleaned in the 12 months prior to pregnancy (53.9%). This percentage increases when asked about teeth cleaning during pregnancy to 58.8%. The chart below shows the progress made in Massachusetts since 2007 on the number of women who had their teeth cleaned during pregnancy.

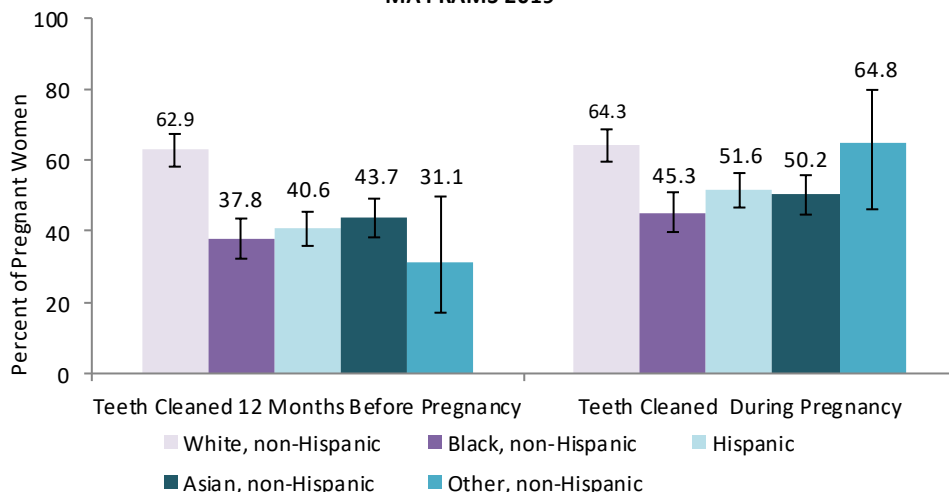
The percent of women who had their teeth cleaned during pregnancy has increased from 2011-2016, likely due to several state initiatives, including provider trainings, that took place during this time.⁷ In 2016, the prevalence of teeth cleaning 12 months before pregnancy went down which may be due to the change in the wording of the question in the PRAMS phase 8 survey.

**Trends of Teeth Cleaning by Time Periods,
MA PRAMS 2007-2019**



Race/Ethnicity

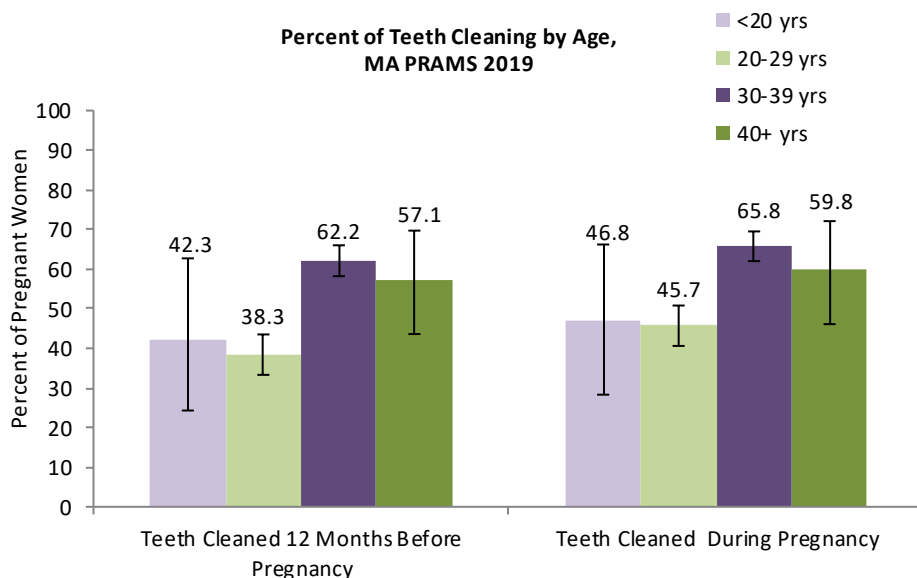
**Percent of Teeth Cleaning by Race/Ethnicity,
MA PRAMS 2019**



There are some differences in teeth cleaning during pregnancy by race and ethnicity. White, non-Hispanics had the highest percent of teeth cleanings before pregnancy while Other, non-Hispanics had the lowest when compared to other groups. Other, non-Hispanics had the highest percent of teeth cleanings during pregnancy while Black, non-Hispanics had the lowest when compared to other groups. The PRAMS survey only collects information on the races and ethnicities included in the graph.

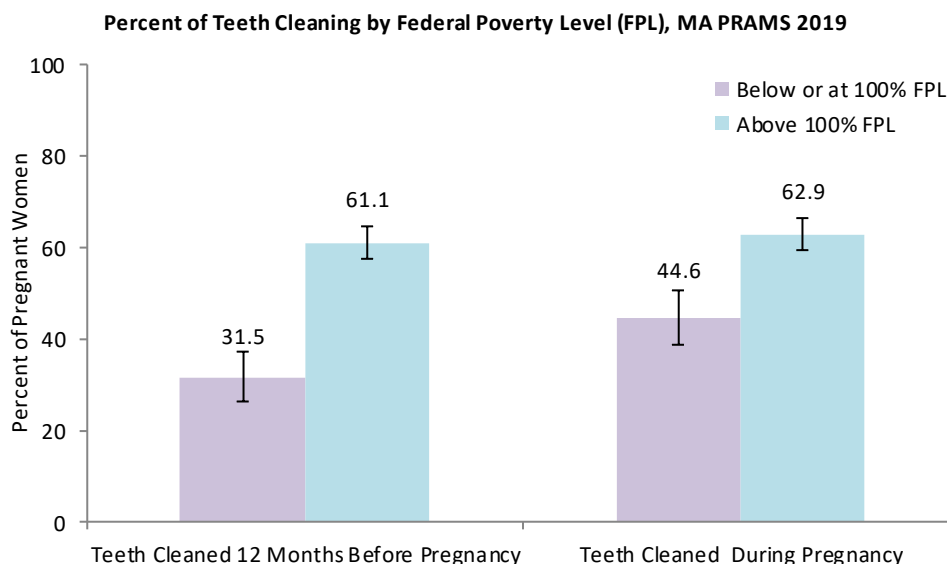
Age

In the 2019 PRAMS, age was a predictor of accessing preventive dental care. In general, increased age was associated with increased dental cleaning rate. Women thirty years of age and older were more likely to receive a dental cleaning before and during pregnancy than younger women. In particular, the group of pregnant women aged 30-39 were significantly more likely to receive a dental cleaning compared to those aged 20-29.

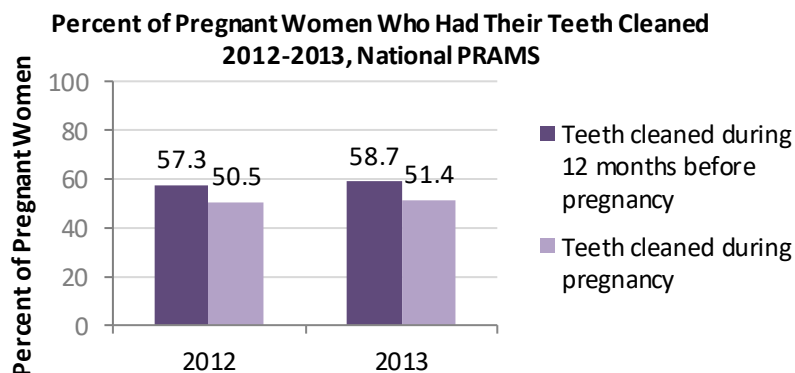


Income

In the 2019 PRAMS, income was also a factor involved in accessing preventive dental care. Those who were living at or below 100% of the federal poverty level were significantly less likely to have their teeth cleaned before or during pregnancy compared to those above 100% of the federal poverty level. More women below 100% of the federal poverty level had their teeth cleaned during pregnancy than in the year before pregnancy.



National Trends⁸



In 2012 and 2013, the national PRAMS survey results across states indicate that approximately 60% of pregnant women had their teeth cleaned in the 12 months prior to pregnancy. In addition, approximately 50% of pregnant women nationally had their teeth cleaned during pregnancy.

THE PROGRAMS IN MA

Addressing Barriers to Care

The DPH Office of Oral Health is working with community health centers, early childhood programs, and schools across the state to address barriers to care by developing an infrastructure of oral health for infants, children, and pregnant women.

Some barriers to oral health care include:

- **Lack of integration** between medical and dental practices
- **Patient factors** including fear of dental procedures, cultural practices, and cost
- **Provider factors** including unwillingness to treat groups of patients such as pregnant women and infants with MassHealth or without insurance, and lack of staff training
- **System factors** including availability and cost of insurance, and lack of access to care (including transportation and availability of providers)

Strategies being used to address these barriers in Massachusetts include:

- **Improving** medical and dental integration (please see below)
- **Developing** partnerships and **designing** school-based, clinic-based, and early childhood interventions
- **Educating** providers and patients that oral health care is safe, effective, and recommended during pregnancy and early childhood and **disseminating** the state guidelines

The Perinatal Infant Oral Health Quality Improvement Project (PIOHQI)

Massachusetts is one of 16 states across the United States that previously participated in the **PIOHQI** grant program.⁹ The initiative was a 3-year program funded by the Health Research and Services Administration (HRSA).

Project Goal: The overarching goal across project states was to expand the number of targeted programs available for replicable integration of quality oral health care into perinatal and infant primary care delivery systems with statewide reach.

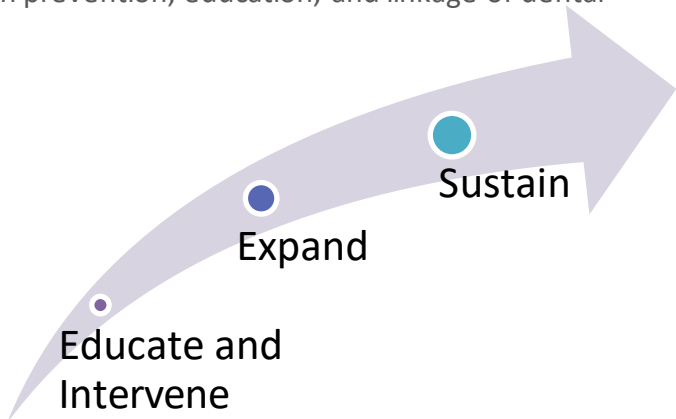
PIOHQI in Massachusetts: Through the grant, Massachusetts Department of Public Health established the Perinatal Expansion Program (PEP), which focused on integrating and improving the delivery of oral health and primary care through health center-based system change, disseminating evidence-based practices, and undertaking quality improvement initiatives. The PEP project built upon previous efforts undertaken by MDPH in partnership with the Massachusetts League of Community Health Centers (MLCHC) to better integrate medical and dental services through quality improvement. Three Massachusetts community health centers participated in the project. **Strategies in the PEP project included:**

- Medical record improvements in medical and dental clinics
- Staff education on oral health guidelines and methods
- Staff training on processes for quality improvement
- Developing robust partnerships with outside organizations
- Improved data collection tools and protocols for participating community health centers

NEXT STEPS IN MA

The **goal of the DPH Office of Oral Health** is to improve, promote and protect the oral health of all Massachusetts residents throughout their lifespan by focusing on prevention, education, and linkage of dental and medical care. The next steps include:

- **Prevention:** Developing partnerships and seeking opportunities to prevent oral health issues in pregnant women and infants.
- **Education:** Disseminating the Massachusetts Guidelines for Pregnancy and Early Childhood as well as providing opportunities for training and education for providers and families.
- **Linkage:** Continuing efforts to link medical and dental practices to create comprehensive oral services for pregnant women and infants.
- **Surveillance and Evaluation:** Developing a plan for long term surveillance of statewide oral health outcomes.



References

1. Healthy People 2030 Leading Health Indicators: <https://www.healthypeople.gov/>
2. Title V Maternal and Child Health Block Grant – Massachusetts: <http://www.amchp.org/Policy-Advocacy/MCHAdvocacy/Documents/Massachusetts%202016.pdf>
3. Massachusetts Oral Health Practice Guidelines for Pregnancy and Early Childhood: <https://www.mass.gov/files/documents/2016/10/ne/oral-health-guidelines.pdf>
4. CDC Children’s Oral Health: https://www.cdc.gov/oralhealth/children_adults/child.htm
5. CDC Disparities in Oral Health: https://www.cdc.gov/oralhealth/oral_health_disparities/
6. Data from the Massachusetts Pregnancy Risk Assessment and Monitoring System (PRAMS), 2014-2015
7. Information on the 2011-2012 state perinatal oral health initiatives.
http://www.massleague.org/Calendar/LeagueEvents/Dental/4.%20Oral%20Health_Maternal%20and%20Child%20Health%20Priority%20for%20MA_Dr.%20Diop.pdf
8. Data from the National PRAMS, 2019
9. PIOHQI Grant Program: <https://www.mchoralhealth.org/projects/piohqi.php>